



2017 Indiana FirstNet Conference

FirstNet and Rural Public Safety

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Implementing the Vision



THE LAW

2.22.12

FirstNet becomes law
PL 112-96

GOVERNANCE



The FirstNet Board has **15** members, including those with telecommunications and public safety backgrounds

Each Governor appoints **1** Single Point of Contact (SPOC) and governing body to represent the State's interests to FirstNet.

43 member Public Safety Advisory Committee (PSAC) advises FirstNet on public safety intergovernmental matters.






























FUNDING



\$7B authorized to build the FirstNet network. Funded by spectrum auctions through 2022.

BAND CLASS (BC) 14

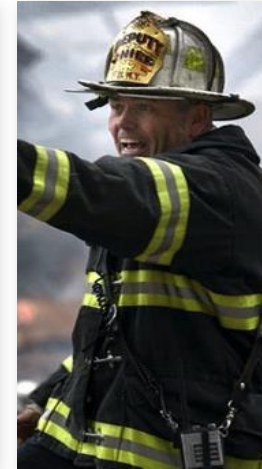
20MHz of bandwidth has been dedicated to public safety in the prime upper **700MHz** frequency range.

| BC 17 | | BC 17 | | BC 17 | | BC 17 | | BC 17 | | BC 17 | | BC 17 | | BC 17 | | BC 17 | |
|------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------|--|
| BC 12 | | BC 29 | | BC 12 | | BC 13 | | BC 14 | | LMR | | BC 13 | | BC 14 | | LMR | |
|  Mobile | |  AT&T | |  Mobile | |  Verizon | |  PS Broadband | |  PS Narrowband | |  Verizon | |  PS Broadband | |  PS Narrowband | |
|  US Cellular | |  Dish | |  US Cellular | |  Verizon | |  FirstNet | |  FirstNet | |  Verizon | |  FirstNet | |  FirstNet | |
|  Sprint | |  AT&T | |  Sprint | |  Verizon | |  FirstNet | |  FirstNet | |  Verizon | |  FirstNet | |  FirstNet | |
| UL | | UPLINK | | DL | | DOWNLINK | | DOWNLINK | | DOWNLINK | | UPLINK | | UPLINK | | DOWNLINK | |
| 6 MHz | | 12 MHz | | 6 MHz | | 11 MHz | | 10 MHz | | 6 MHz | | 11 MHz | | 10 MHz | | 6 MHz | |
| <div>↑ 1 MHz Guard Bands ↑</div> | | | | | | | | | | | | | | | | | |

The Network



- **Provide nationwide coverage, including rural and remote areas**
- **Meet public safety requirements**
 - provide priority and preemption during emergencies
- **Build in resiliency and reliability**
- **Evolve with technology to provide access to applications and innovative services**



Rural Coverage Requirement



Public Law 112-96– Feb. 22, 2012

**Middle Class Tax Relief and Job
Creation Act of 2012**

“Rural Coverage -- In carrying out the duties and responsibilities of this subsection, including issuing requests for proposals, [FirstNet] shall require deployment phases with substantial rural coverage milestones as part of each phase of the construction and deployment of the network.”

47 U.S.C. § 1426 (b)(3).

Definition of Rural



■ Rural Electrification Act:

- FirstNet defines “rural” as having the same meaning as “rural area” in Section 601(b)(3) of the Rural Electrification Act of 1936, as amended.
- Rural Electrification Act “Frontier” classification not adopted by FirstNet

■ In short, a rural is defined as:

- A city, town or incorporated area that has a population of less than 20,000
- Any area that is not contiguous and adjacent to a city or town with greater than 50,000 inhabitants

Mapping the Results

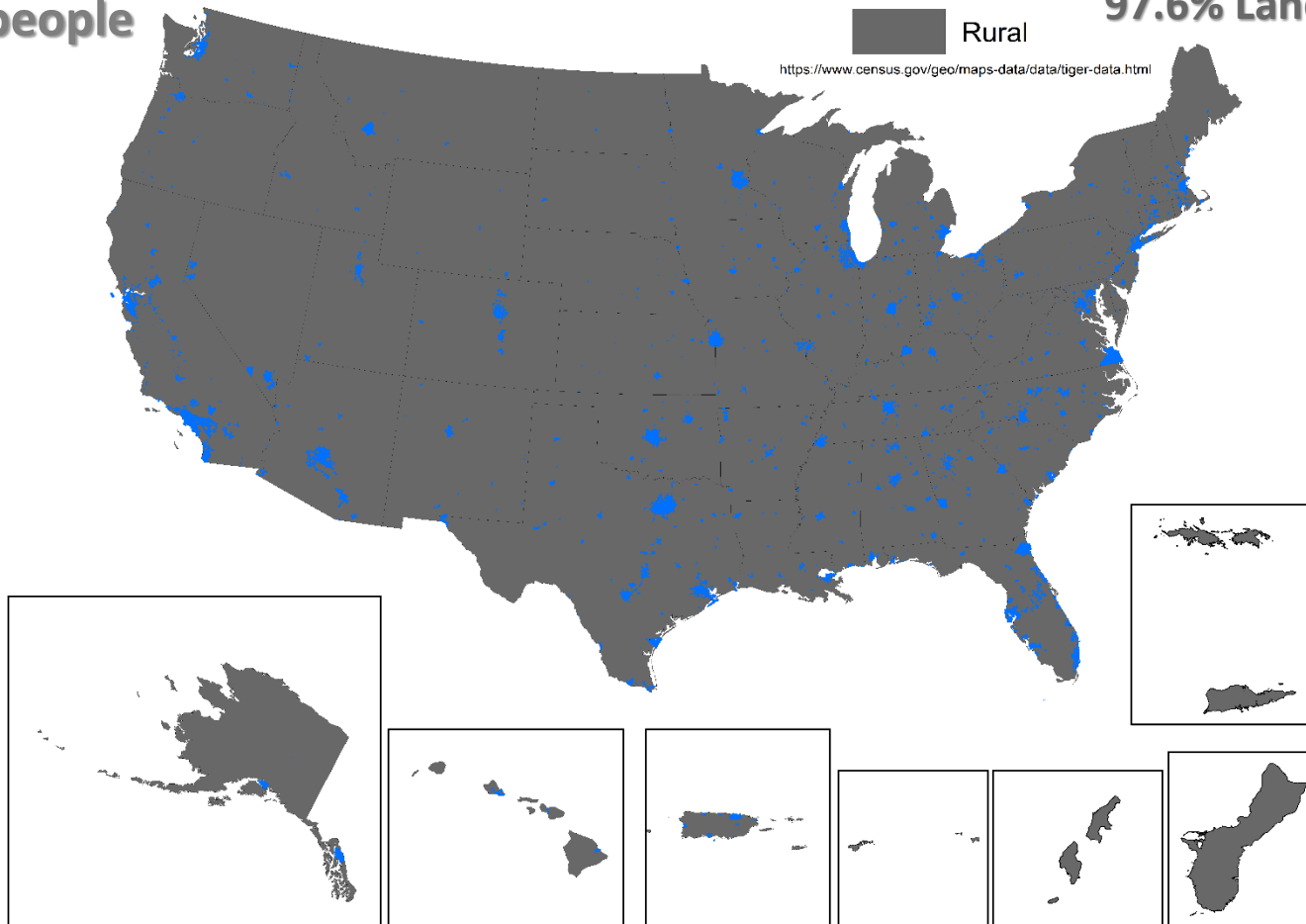


All US Census Places >20,000 & adjacent
to >50,000 people

Urban
Rural

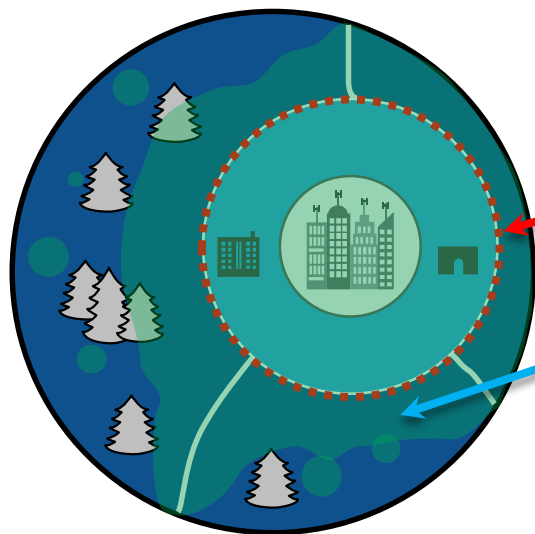
2.4% Land | 55.8% Pops
97.6% Land | 44.2% Pops

<https://www.census.gov/geo/maps-data/data/tiger-data.html>



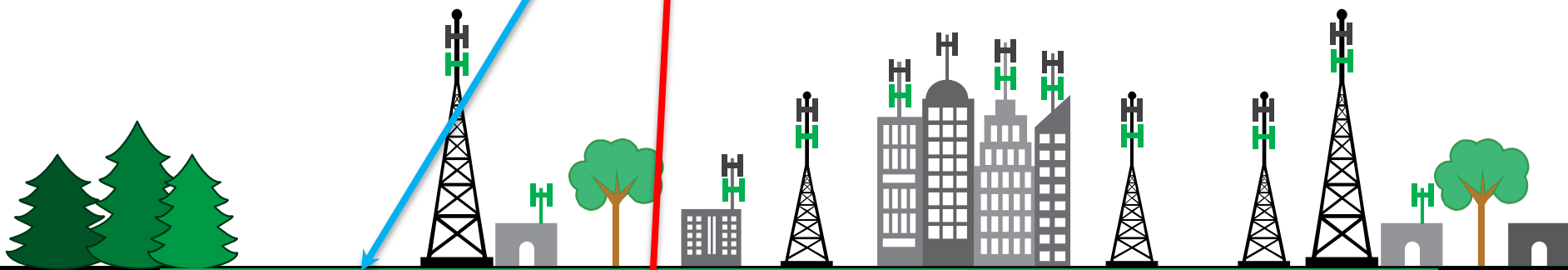


Significance of Rural Definition



☐ Rural definition sets this boundary

☐ Rural definition does not determine FirstNet coverage



RURAL

URBAN

RURAL

FirstNet RFP Proposed Rural Milestones



- **IOC-2 (12 months)** – 20% of Contractor's proposed Band 14 Coverage in rural areas
- **IOC-3 (24 months)** – 60% of Contractor's proposed Band 14 Coverage in rural areas
- **IOC-4 (36 months)** – 80% of Contractor's proposed Band 14 Coverage in rural areas
- **IOC-4 (48 months)** – 95% of Contractor's proposed Band 14 Coverage in rural areas
- **FOC (60 months)** – 100% of Contractor's proposed Band 14 Coverage in rural areas

IOC = Initial Operating Capacity

FOC = Final Operating Capacity

Device Portfolio Vision

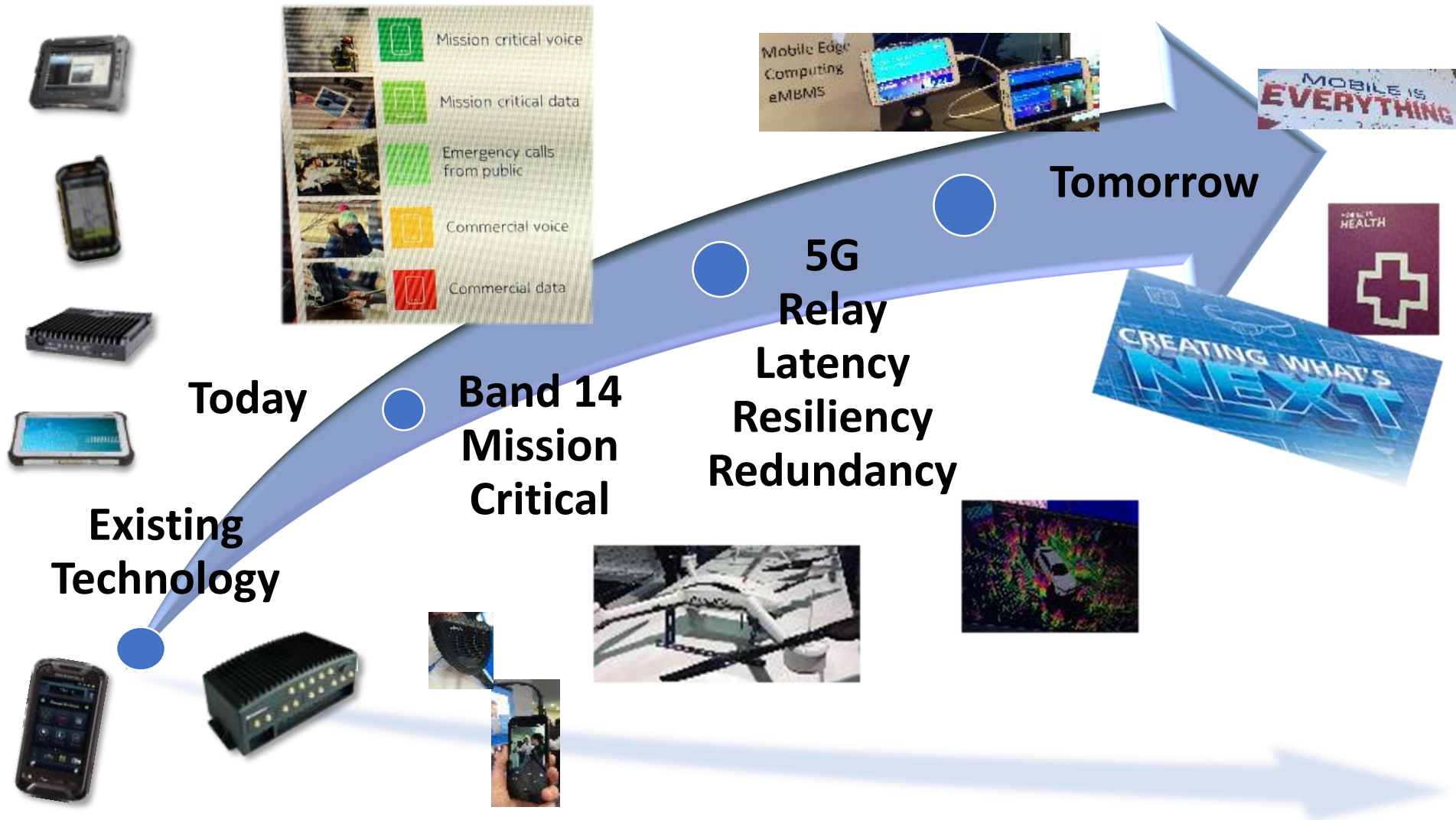


All inclusive vision building on economies of scale to target COTS pricing and availability



| Types | <ul style="list-style-type: none"> • Smartphones • Tablets • Feature phones • Ruggedized • All operating systems | <ul style="list-style-type: none"> • In Vehicle Routers • Hotspots / MDTs • Modems • High Power UE/ Vehicle Network System • Range extension / rural / repeaters • Satellite fallback | <ul style="list-style-type: none"> • Hybrid • Wearables • Hands free • Gloved usage |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connectivity | <ul style="list-style-type: none"> • LTE, 3G, Satellite • Wi-Fi, Wi-Gig • NFC • Bluetooth • Tethering | <ul style="list-style-type: none"> • LTE, 3G, Satellite • Wi-Fi • Ethernet • USB | <ul style="list-style-type: none"> • LTE, 3G, Satellite • Wi-Fi, Wi-Gig • NFC • Bluetooth • LMR / P25 |
| Current Band 14 Support | Only a few | Only a few | More to come |

Roadmap Vision



High Priority Applications



FirstNet Network Benefits



**Dedicated to
Public Safety**



**Public Safety
Apps /
Services**

True Priority



**Situational
Awareness**



**Local
Control**



**Public Safety
Grade**

FirstNet News & Information



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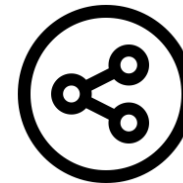


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State Single Points of Contact (SPOC):

www.firstnet.gov/consultation

Public Safety Advisory Committee (PSAC):

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